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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,901	01/17/2002	William H. Zebuhr	105019-0008	3356

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,901

Applicant(s)

ZEBUHR, WILLIAM H.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on amendment of 09/23/04.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9, 12-13 and 16-20 is/are rejected.  
7) ☒ Claim(s) 10, 11, 14 and 15 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☒ Other: TD approval.

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 12-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al (4,731,159) in view of Etheridge (2,953,110).

The above references are applied for the same combined reasons as set forth at pages 5-6 of the previous Office action.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al in view of Etheridge as applied to claims 1, 3-9, 12-13 and 16-20 above, and further in view of Hickman (2,899,366) or Sears (5,968,321).

The above references are applied for the same combined reasons as set forth at page 6, third full paragraph.

Claims 10-11 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 09/23/04 have been fully considered but they are not persuasive.

Applicants following argument such as: "Porter et al.'s individual chambers extend generally perpendicular to the heat exchanger's axis of rotation, not axially, as a

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folded plate joined at its ends in Applicant's manner can. Consequently, the chamber walls are circular, and there is no apparent way in which a plate can be folded to make opposed circular chamber walls. The prior art of record therefore provides no suggestion that the two patents' teachings should be combined ..."

However, the test of obviousness is not whether the features of one references **may be bodily incorporated into the other** to produce the claimed subject and should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and whether those concept would suggest to one skilled in the art the modifications called for by the claims.." In re Bozek, 163 USPQ 545; in re Beckum, 169 USPQ 47.

Applicant acquiesce that "... it is true that Etheridge discloses the concept of folding a plate to make a heat exchanger; as Applicant does, Etheridge folds a plate to provide each chamber's opposing walls. And Porter et al. do indeed disclose a rotating heat exchanger that divided evaporation chambers from condensation chambers."

Moreover, it is noteworthy that Etheridge suggests combining its folded structure to a heat exchange apparatus (obviously, the type disclosed by Porter). See e.g., column 3, lines 15-30 of the Etheridge's reference.

Furthermore, Porter's disclosure at col. 2, lines 39-68 would at least be suggestive of the argued "...chamber walls are circular ..." That is, Porter suggests that "...the plate surface. .. are disposed in one or more circles which are concentric with the axis of rotation of the plates or in a continuous spiral configuration about said axis. Thus in one form, where the surface features are one or more channels in the plate

surface, it is preferred that they are continuous channels disposed concentrically about said axis of rotation or a continuous spiral channel about that axis as center..”

Thus, in the absence of anything which may be “new” or unexpected result”. A prima facie case of obviousness has been established by the art and has not been rebutted.

Unexpected results must be established by factual evidence. Mere arguments or conclusory statement in the specification, applicant’s amendments, or the brief do not suffice. In re Lindner , 457 F. 2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). In re Wood, 582, F. 2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-


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271-1450. The examiner can normally be reached on Tuesday-Friday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Manoharan/af  
December 27, 2004

  
1764  
12/29/04